

## EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	3	"14222".pn.	FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/09/21 17:46
L2	1	"60045606".pn.	FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/09/21 17:48
L3	2	"2518999".pn.	FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/09/21 17:51
S1	0	("acylthiophenes").PN.	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2008/12/15 10:20
S2	28	acylthiophenes	US-PGPUB; USPAT; FPRS; EPO; JPO	ADJ	ON	2008/12/15 10:20
S3	0	S2 and @ay= "2003"	US-PGPUB; USPAT; FPRS; EPO; JPO	ADJ	ON	2008/12/15 10:21
S4	0	acylthiophenes and @ay= "2003"	US-PGPUB; USPAT; FPRS; EPO; JPO	ADJ	ON	2008/12/15 11:07
S5	0	(acylthiophenes) and @ay= "2003"	US-PGPUB; USPAT; FPRS; EPO; JPO	ADJ	ON	2008/12/15 11:07
S6	28	(acylthiophenes)	US-PGPUB; USPAT; FPRS; EPO; JPO	ADJ	ON	2008/12/15 11:08
S7	0	(acylthiophenes)"&LT 2003".ay.	US-PGPUB; USPAT; FPRS; EPO; JPO	ADJ	ON	2008/12/15 11:11
S8	0	(acylthiophenes)"&LT 2008".ay.	US-PGPUB; USPAT; FPRS; EPO; JPO	ADJ	ON	2008/12/15 11:11
S9	43	(acylthiophenes)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 11:22

## EAST Search History (Prior Art)

S10	1	1983-723178.NRAN.	DERWENT	ADJ	ON	2008/12/15 11:23
S11	56	thiophene\$ NEAR acylation	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 14:42
S12	0	(thiophene\$ NEAR acylation) AND halogenated thiopene\$	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 14:43
S13	2	(thiophene\$ NEAR acylation) AND halogenated thiophene\$	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 14:43
S14	3	(thiophene\$ NEAR acylation) AND (absence WITH solvent)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 14:56
S15	3	(thiophene NEAR acylation) AND (absence WITH solvent)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:01
S16	1	(thiophene\$ NEAR acylation) AND zeolites	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:03
S17	2	(thiophene\$ NEAR acylation) AND ion exchange resins	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:09
S18	2	(thiophene NEAR acylation) AND ion exchange resins	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:15
S19	0	((thiophene NEAR acylation) NOT derivative\$)AND ion exchange resins	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:17
S20	0	((thiophene NEAR acylation) NOT derivative) AND ion exchange resins	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:17

## EAST Search History (Prior Art)

S21	3744	thiophene AND ion exchange resins	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:18
S22	0	(thiophene AND ion exchange resins) NEAR acylation	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:18
S23	823	(thiophene AND ion exchange resins) and acylation	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:18
S24	0	(thiophene AND ion exchange resins) SAME acylation	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:19
S25	0	(thiophene AND ion exchange resins) WITH acylation	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:19
S26	22	acylation WITH ion exchange resins	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:20
S27	0	(acylation NEAR heteroaromatic\$) WITH ion exchange resins	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:21
S28	0	(acylation NEAR heteroaromatic) WITH ion exchange resins	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:21
S29	0	(acylation NEAR heterocycle\$) WITH ion exchange resins	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:22
S30	0	(acylation NEAR heterocycle) WITH ion exchange resins	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:22

## EAST Search History (Prior Art)

S31	1	friedel crafts acylation WITH ion exchange resins	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:23
S32	22	acylation WITH ion exchange resins	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:31
S33	10341	heterocycle and acylation	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:42
S34	741	heterocycle SAME acylation	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:43
S35	741	(heterocycle SAME acylation)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:43
S36	313	(heterocycle WITH acylation)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:44
S37	1	(heterocycle WITH acylation) SAME zeolites	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 15:44
S38	2	(heterocycle WITH acylation) and zeolites	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 16:03
S39	0	(heterocycle WITH acylation) SAME activated clays	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 16:04
S40	0	(thiophene WITH acylation) SAME activated clays	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 16:04

## EAST Search History (Prior Art)

S41	0	(thiophene WITH acylation) and activated clays	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 16:05
S42	0	(heterocycle WITH acylation) same activated clays	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 16:06
S43	0	(heterocycle WITH acylation) and activated clays	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 16:06
S44	0	(thiophene WITH acylation) and activated clays	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 16:07
S45	2	(thiophene and acylation) and activated clays	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2008/12/15 16:07
S46	307	acylation and chlorothiophene	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2008/12/17 08:15
S47	32	S46 and clays	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2008/12/17 08:16
S48	155	2-chlorothiophene	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2008/12/17 08:23
S49	3	S48 and acetylation	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2008/12/17 08:24
S50	0	2-chloro-5-acylthiophene	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2008/12/17 08:28
S51	3	2-chloro-5-acetylthiophene	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2008/12/17 08:29

## EAST Search History (Prior Art)

S52	56	2-acetyl-5-chlorothiophene	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2008/12/17 08:30
S53	32	S52 and synthesis	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2008/12/17 08:32
S54	2209	substituted thiophenes	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2008/12/17 08:39
S55	214	S54 and acylation	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2008/12/17 08:39
S56	6	S55 and zeolites	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2008/12/17 08:39
S57	9	substituted 2-acetylthiophene	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2008/12/17 08:44
S58	348	2-acetylthiophenes	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2008/12/17 08:48
S59	237	S58 and synthesis	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2008/12/17 08:49
S60	1	"6274741".pn.	US-PGPUB; USPAT	ADJ	ON	2009/04/30 08:01
S61	1	"2458519".pn.	US-PGPUB; USPAT	ADJ	ON	2009/04/30 08:04
S62	1	"2458512".pn.	US-PGPUB; USPAT	ADJ	ON	2009/04/30 08:05
S63	0	(thiophene AND ion exchange resins) same acylation	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 08:44
S64	10	(thiophene same ion exchange resins) and acylation	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 08:44

## EAST Search History (Prior Art)

S65	70890	thiophen\$2 and (acyl\$9 or acet\$9 or alkanoyl\$6)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 08:48
S66	5236	(cation or ion) near resin\$1 near exchange\$2	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 08:49
S67	156	S65 and S66	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 08:49
S68	156	S67 and @py <= "20031217"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 08:50
S69	23637	thiophen\$2 same (acyl\$9 or acet\$9 or alkanoyl\$6)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 08:58
S70	46	S69 and S66	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 08:58
S71	1	"4263407".pn.	US-PGPUB; USPAT; FPRS; EPO; JPO	ADJ	ON	2009/04/30 11:06
S72	1	"4362880".pn.	US-PGPUB; USPAT; FPRS; EPO; JPO	ADJ	ON	2009/04/30 11:10
S73	23	acylation WITH (ion\$3 near3 exchange near6 resin\$1)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 11:17
S74	153	acylation same (ion\$3 near3 exchange near6 resin\$1)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 11:17

## EAST Search History (Prior Art)

S75	28	S74 and (thiophen\$2 or furan)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/04/30 11:18
S76	0	("2458512").URPN.	USPAT	OR	OFF	2009/05/04 10:04
S77	253551	(cation or ion) near exchang\$2	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 10:05
S78	23646	thiophen\$2 same (acyl\$9 or acet\$9 or alkanoyl\$6)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 10:06
S79	3928	S77 and S78	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 10:06
S80	72310	(cation\$3) near exchang\$2	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 10:07
S81	825	S78 and S80	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 10:07
S82	8	(S78 and S80).ab.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 10:08
S83	0	(S78 and S80).ti.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 10:09
S84	817	S78 and S80	US-PGPUB; USPAT	ADJ	ON	2009/05/04 10:10
S85	330	S84 and @pd <= "20031230"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 10:11



## EAST Search History (Prior Art)

S86	11	S84 and ((thiophen\$2).ti.)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 10:12
S87	23	S84 and ((thiophen\$2).ab.)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 10:14
S88	0	S81 and (((ted) near2 (norton)).inv.)	US-PGPUB; USPAT	ADJ	ON	2009/05/04 10:15
S89	0	S81 and (((ted) near4 (norton)).inv.)	US-PGPUB; USPAT	ADJ	ON	2009/05/04 10:16
S90	0	S81 and (((ted) near4 (norton)).inv.)	US-PGPUB; USPAT; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 10:16
S91	0	S81 and (norton.inv.)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 10:16
S92	12	((TED) NEAR4 (NORTON)).INV.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 10:17
S93	0	S81 and (DOW NEAR2 CHEMICAL).AS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 10:20
S94	3928	S77 and S78	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 10:24
S95	6	S94 and (dow.as.)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 10:24
S96	7	((SEIJI) near2 (BANDO)).INV.	US-PGPUB; USPAT	OR	OFF	2009/05/04 13:28
S97	2	((SYUZO) near2 (SATAKE)).INV.	US-PGPUB; USPAT	OR	OFF	2009/05/04 13:28
S98	13	((HIROKAZU) near2 (KAGANO)).INV.	US-PGPUB; USPAT	OR	OFF	2009/05/04 13:29

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S99	133	((SEIJI) near2 (BANDO)).INV.	EPO; JPO; DERWENT	OR	OFF	2009/05/04 13:30
S10 0	4	((SYUZO) near2 (SATAKE)).INV.	EPO; JPO; DERWENT	OR	OFF	2009/05/04 13:31
S10 1	54	((HIROKAZU) near2 (KAGANO)).INV.	EPO; JPO; DERWENT	OR	OFF	2009/05/04 13:31
S10 2	1	"6184418".pn.	US-PGPUB; USPAT	ADJ	ON	2009/05/04 16:49
S10 3	445	((cation\$6) near exchange\$2) same acyl\$8	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 16:55
S10 4	157	((cation\$6) near exchange\$2) with acyl\$8	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 16:55
S10 5	445	((cation\$6) near exchange\$2) same acyl\$8	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 17:02
S10 6	349	S105 and resin\$1	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 17:03
S10 7	209	((((cation\$6) near exchange\$2) same acyl\$8) same resin\$1	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 17:03
S10 8	135	((((cation\$6) near exchange\$2) same acyl\$8) same resin\$1	USOCR	ADJ	ON	2009/05/04 17:10
S10 9	1531	((((cation\$6) ) same acyl\$8) same resin\$1	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 17:42
S11 0	610	((((cation\$6) with resin\$1 ) same acyl\$8)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 17:43
S11 1	653	acyl\$9 same (ion\$3 near3 exchange near6 resin\$1)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 17:45

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S11 2	229	acyl\$9 with (ion\$3 near3 exchange near6 resin\$1)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 17:45
S11 3	82	acyl\$9 with (cation\$3 near3 exchange near6 resin\$1)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 17:48
S11 4	92	acyl\$9 with ((cation\$3 with exchange\$1) with resin\$1)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/05/04 17:49
S11 5	2	"2711414".pn.	US-PGPUB; USPAT; USOCR	ADJ	ON	2009/09/16 17:21
S11 6	807	549/70,81.ccls.	US-PGPUB; USPAT; USOCR	ADJ	ON	2009/09/21 14:06
S11 7	139	S116 and acylat\$4	US-PGPUB; USPAT; USOCR	ADJ	ON	2009/09/21 14:06
S11 8	4	S117 and (cation adj exchange\$3)	US-PGPUB; USPAT; USOCR	ADJ	ON	2009/09/21 14:06
S11 9	235	S116 and acetyl\$4	US-PGPUB; USPAT; USOCR	ADJ	ON	2009/09/21 14:18
S12 0	4207	thiophene same acetyl\$4	US-PGPUB; USPAT; USOCR	ADJ	ON	2009/09/21 14:19
S12 1	2546	thiophene with acetyl\$4	US-PGPUB; USPAT; USOCR	ADJ	ON	2009/09/21 14:19
S12 2	97	S121 and (cation adj exchange\$3)	US-PGPUB; USPAT; USOCR	ADJ	ON	2009/09/21 14:19
S12 3	0	S121 same (cation adj exchange\$3)	US-PGPUB; USPAT; USOCR	ADJ	ON	2009/09/21 14:19
S12 4	2	S116 and S122	US-PGPUB; USPAT; USOCR	ADJ	ON	2009/09/21 14:19
S12 5	1694	514/438,448.ccls.	US-PGPUB; USPAT; USOCR	ADJ	ON	2009/09/21 14:21

## EAST Search History (Prior Art)

S12 6	1	S122 and S125	US-PGPUB; USPAT; USOCR	ADJ	ON	2009/09/21 14:21
S12 7	153	S120 and (cation adj exchange\$3)	US-PGPUB; USPAT; USOCR	ADJ	ON	2009/09/21 14:24
S12 8	1	S125 and S127	US-PGPUB; USPAT; USOCR	ADJ	ON	2009/09/21 14:24
S12 9	7	((SEIJI) near2 (BANDO)).INV.	US-PGPUB; USPAT	OR	OFF	2009/09/21 14:26
S13 0	3	((SYUZO) near2 (SATAKE)).INV.	US-PGPUB; USPAT	OR	OFF	2009/09/21 14:27
S13 1	15	((HIROKAZU) near2 (KAGANO)).INV.	US-PGPUB; USPAT	OR	OFF	2009/09/21 14:27
S13 2	133	((SEIJI) near2 (BANDO)).INV.	EPO; JPO; DERWENT	OR	OFF	2009/09/21 14:27
S13 3	4	((SYUZO) near2 (SATAKE)).INV.	EPO; JPO; DERWENT	OR	OFF	2009/09/21 14:28
S13 4	54	((HIROKAZU) near2 (KAGANO)).INV.	EPO; JPO; DERWENT	OR	OFF	2009/09/21 14:28
S13 5	1	"525374".pn.	US-PGPUB; USPAT; FPRS; EPO; JPO	ADJ	ON	2009/09/21 17:15
S13 6	5	"525374".pn.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/09/21 17:15
S13 7	9	"504511".pn.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT	ADJ	ON	2009/09/21 17:16
S13 8	2	"2745287".pn.	FPRS; EPO; JPO; DERWENT	OR	OFF	2009/09/21 17:17
S13 9	1	"5969159".pn.	US-PGPUB; USPAT; USOCR	OR	OFF	2009/09/21 17:20